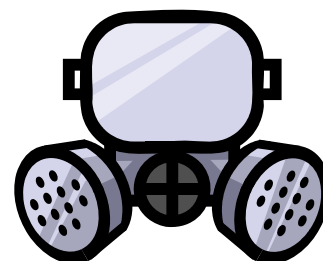


SECTION TWO – MIOSHA REGULATIONS

PART 2: MIOSHA HEALTH REGULATIONS

CHAPTER 20: Air Contaminants

The ***MIOSHA General Industry Occupational Health Standards- Part 301, Air Contaminant Rules (R 325.51101-51108)*** are administered by the Michigan Department of Energy, Labor, and Economic Growth, MIOSHA. The air contaminant rules set permissible exposure limits for approximately 600 substances. MIOSHA permissible exposure limits (i.e., PEL's) may or may not be the same as federal OSHA's, Michigan's PELs must be equal to or more stringent than federal OSHA's. Permissible exposure limits set by these rules include:



- The time-weighted average (TWA) represents the employee's average airborne exposure in any eight-hour work shift of any 40-hour work week which shall not be exceeded.
- The short-term exposure limit (STEL) represents the employee's 15-minute TWA exposure which shall not be exceeded at any time during a work day unless another time limit is specified for the contaminant.
- A ceiling limit is the employee's exposure which shall not be exceeded during any part of the work day. If instantaneous monitoring is not feasible, the ceiling shall be assessed as a 15-minute, TWA exposure which shall not be exceeded during any part of the work day.

Permissible exposure limits for some commonly used chemicals are as follow:

Chemical	TWA	STEL
Acetone	750 ppm	1,000 ppm
2-butoxyethanol	25 ppm	
Toluene	100 ppm	150 ppm
1,1,1-Trichloroethane	350 ppm	450 ppm
Xylene	100 ppm	150 ppm

20.1 Employee Exposure

As an employer who uses hazardous chemicals in the workplace, you should evaluate your employees' potential exposure to these chemicals. Key elements of a hazard evaluation will provide you with the knowledge to determine which materials must be monitored for exposure purposes. (This evaluation may be coordinated with your facility's pollution prevention efforts.) Steps that should be considered in the evaluation include:

In This Chapter...

- 20.1 – Employee Exposure
- 20.2 – Monitoring
- 20.3 – Engineering Controls
- 20.4 – Administrative Controls and Personal Protective Equipment

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- Determining the physical, chemical, and toxicological properties of the hazardous material.
- Quantifying the amount of product that is used and the rate at which gases or vapors are generated.
- Determining the length of exposure.
- Considering the decomposition of products and other types of hazards such as skin absorption or ingestion.
- Evaluating the location of the hazard and existing engineering controls.
- Seasonal considerations. Volatile compounds will produce more vapors as the temperature of the work place increases during summer months. Dilution ventilation during cold months typically decreases as buildings are closed up to minimize heat loss.

20.2 Monitoring

The best method of evaluating your employee exposure to hazardous chemicals is achieved by conducting personal monitoring. Personal monitoring means the sample is collected as close as possible to the exposed employee's breathing zone.

Area monitoring (collecting the sample from an area of the plant where employees are exposed to hazardous chemicals) can be conducted in some circumstances to provide general information pertaining to the likelihood of overexposure of employees to regulated permissible exposure limits. However, area monitoring can produce inaccurate results if the sample is not collected from a proper location.

Monitoring of air contaminants can be conducted in a variety of ways. These include:

- Use of direct reading instruments which provides instantaneous or continuous analytical results.
- Use of personal monitoring devices which are either passive or active. Active devices utilize a pump to draw air through some type of collection media. The collection media is then sent to a laboratory for analysis. There are specific, recognized procedures for collection and analysis of air contaminants which must be followed to ensure reporting of accurate results.
- Use of detector tubes, which are a type of passive or active monitoring device, provides inexpensive, quick, and relatively accurate analysis of contaminant levels in the work place.

The MIOSHA, Consultation Education and Training Division [(517) 322-1809], provides professional on-site assistance, free of charge, to aid employers in evaluating employee exposure to air contaminants.

20.3 Engineering Controls

When employee exposures to an air contaminant exceed the permissible exposure limit, without regard to the use of respiratory protection, the employer must institute available and feasible (i.e., economically, structurally, etc.) engineering controls to reduce exposures below the permissible exposure limit. If exposures cannot be reduced below the permissible exposure limit, engineering controls, in conjunction with personal protective equipment, shall be used to attain the lowest exposure levels feasible. Types of engineering controls may include:

- Bringing in large volumes of fresh air to dilute the concentrations of hazardous material, referred to as dilution ventilation.
- Use of local exhaust ventilation to capture and remove the hazardous material at its point of emission or source. Use of filters, cyclones, absorbents, and scrubbers may be necessary components of such a ventilation system. These are used to capture the contaminant in the exhausted air prior to venting the air to the outdoor environment or recirculating some or all of the air back into the work place.
- Construct an enclosure around the employee or the process which uses the hazardous material.



Contact the Michigan Department of Natural Resources and Environment, Clean Air Assistance Program, at (800) 662-9278 prior to exhausting air to the outdoor environment. Permits may be required (see Chapter 1.1).

Additionally, consult **MIOSHA General Industry Occupational Health Standards – Part 520, Ventilation Control (R 3101)** prior to recirculating any air from exhaust systems back into the work place.

20.4 Administrative Controls and Personal Protective Equipment

If engineering controls do not reduce the exposures below the permissible exposure limit, you must rely on administrative controls and personal protective equipment to reduce exposures.

Administrative controls are work practices or policies instituted by the employer to reduce employee exposure to air contaminants. Many of the water and air pollution prevention strategies addressed in previous chapters are also effective controls for your employees' exposures to workplace contaminants.

The last line of defense against airborne contaminants is personal protective equipment (see Chapter 16). This control measure is not considered as effective as engineering controls because the hazard still exists and you are relying on the employee to properly use the personal protective equipment to prevent exposure. Types of personal protective equipment include respirators, hearing protection, and chemical protective clothing. Personal protective equipment should only be used to control exposures to contaminants (including noise):

- When engineering or administrative controls are not available or feasible (or, if these controls are installed but are not enough to reduce exposures below the personal exposure limit).
- During the time period that engineering controls are being installed.
- During emergencies.

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PART 2: MIOSHA HEALTH REGULATIONS

CHAPTER 21: Asbestos

The Construction Safety & Health Division's Asbestos Program was initiated in September 1986. The Asbestos Program is responsible for enforcement of the *Asbestos Abatement Contractors Licensing Act*, the *Asbestos Workers Accreditation Act*, and for meeting the state of Michigan's responsibilities under the U.S. Environmental Protection Agency's (U.S. EPA's) *Asbestos Hazard Emergency Response Act* (AHERA). The program also enforces asbestos issues related to the *Michigan Occupational Safety and Health Act* (MIOSHA). The primary function of the program is to assure that people working with asbestos are properly trained and that individuals performing asbestos abatement comply with rules governing the work activity. These rules are designed to protect not only the individual employee performing asbestos abatement work, but also the general public that occupy the area or building in which the work occurs.



21.2 Why Regulate Asbestos

Asbestos is a mineral that has been used in more than 3,000 different products over the last 100 years for its insulating, acoustical and fire protective properties. Common products that contain asbestos are pipe insulation, floor and ceiling tile, spray-on insulation, boiler wrap insulation, and electrical appliances such as your toaster and hair dryer. Asbestos-containing materials are frequently encountered in a wide range of environments, including but not limited to, industrial and commercial facilities, schools and universities, and residential properties.

Asbestos is actually the name of a group of minerals that share similar chemical and physical properties. The most common of these minerals are *Chrysotile*, *Amosite*, and *Crocidolite*. The primary characteristic that makes asbestos a reason for concern is its ability to separate into microscopic needle-like fibers. Once these fibers become airborne (usually by disturbing the product in which they are contained), they are easily inhaled into the lungs. Once in the lungs, these needle-like fibers can penetrate the lung tissue and the lining that holds the lung in place (pleura). This begins the process that can eventually lead to one of the three commonly associated diseases of asbestos:

In This Chapter...

- 21.1 – The Asbestos Program
- 21.2 – Why Regulate Asbestos
- 21.3 – Who Is Exposed
- 21.4 – General Requirements
- 21.5 – Regulations Enforced
- 21.6 – Other Asbestos Enforcement Agencies

- *Asbestosis* - A scarring and hardening of the lung tissue
- *Lung cancer* - Malignant tumor of the lung tissue
- *Mesothelioma* - A scarring or malignant tumor of the lung lining

All of these diseases can lead to death. Exposure to asbestos is also associated with increased incidences of gastrointestinal cancer. Further, epidemiological studies indicate that the risk of lung cancer among exposed workers

who smoke cigarettes is greatly increased over the risk of lung cancer among non-exposed smokers or exposed nonsmokers. Therefore, *smoking among asbestos workers is strongly discouraged*.

The key to preventing occupational illnesses/diseases involving asbestos is to initially recognize products that may contain asbestos and assure that employees are properly trained, protected and equipped to work with these products in a safe manner. Contact the Asbestos Program at (517) 322-1320 or go to www.michigan.gov/asbestos.

21.3 Who Is Exposed

Nationwide, an estimated 1.3 million employees in construction and general industry potentially face significant asbestos exposure on the job. Heaviest exposures occur in the construction industry, particularly during building renovation or demolition activities where asbestos is disturbed or removed. Employees may also be exposed during custodial/maintenance activities in a building containing asbestos, during the manufacture of asbestos products (such as textiles, friction products, insulation, and other building materials) and during automotive brake and clutch repair work.

21.3.1 Employer's Responsibilities

If your work involves asbestos-containing materials, it is important to recognize an employer's responsibilities under the Michigan Occupational Safety and Health Act (MIOSHA) concerning exposure monitoring, regulated areas, engineering controls and work practices, respiratory protection, protective clothing, hygiene facilities for employees, communication of the hazards associated with asbestos in construction activities, housekeeping, medical exams, and record keeping.

Pursuant to Part 305, the Asbestos for General Industry Standard, section (j)(2)(iii), '...employers shall inform employees who will perform housekeeping activities in areas which contain ACM and/or PACM of the presence and location of ACM and or PACM...' Section (j)(7)(iv) also requires an employer to provide asbestos awareness training to the custodial and/or janitorial staff. Asbestos awareness training assists custodial and janitorial staff in identifying asbestos-containing material (ACM) and/or presumed asbestos-containing material (PACM) and in understanding the information contained within the survey. Asbestos awareness training helps ensure that employees do not inadvertently disturb asbestos-containing materials. It also addresses requirements under the standard pertaining to housekeeping activities.

21.3.2 Building Owner's Responsibilities

Building owners often are the only or best sources of information concerning asbestos hazards within their building(s). Therefore, they, along with employees, are assigned specific conveying and retention duties under the asbestos regulations. To comply with these regulations, a thorough asbestos inspection must be conducted of all pre-1981 building facilities. This survey must identify the presence, location, and quantity of ACM/PACM within the building.

If the building owner does not have a survey, the building owner should contact an environmental consulting firm that has Michigan accredited asbestos building inspectors to conduct an asbestos building survey.

If an employer leases space and the building owner does not have a survey, an option for the employer would be to hire an accredited asbestos inspector to conduct an asbestos survey of the leased area. This limited survey will help ensure the safety and health of employees in the leased area. It is important to recognize, however, that the building owner is legally obligated to complete a comprehensive building survey for all asbestos materials in the building.

The information obtained from a comprehensive asbestos building survey will assist a building owner in fulfilling their notification obligations pertaining to construction and maintenance work activities [i.e., Part 602, (Asbestos Standards for Construction) 29 CFR 1926.1101 (k)(2)(ii)] and also to building housekeeping personnel [i.e., Part 305, 29 CFR 1926.1001 (j)(2)(iii)].

In summaries, a building owner must:

- ✓ Have building surveyed by an accredited inspector.
- ✓ Maintain ACM in a safe manner.
- ✓ Have all employees appropriately trained.
- ✓ Notify all contractors or parties who may contact or be exposed to ACM at their facility.

21.4 General Requirements

The Asbestos Program is responsible for the enforcement of most Michigan asbestos regulations. The Asbestos Program has the following six (6) major areas of responsibility:

21.4.1 Approval of Asbestos Training Courses

In order for individuals performing asbestos-related work to become accredited, they must successfully complete a designated training course that is recognized or approved by the U.S. EPA or the Asbestos Program. For the 32-hour asbestos abatement worker, 40-hour contractor/supervisor, 24-hour project designer, 24-hour inspector and 16-hour management planner courses, Michigan course sponsors must submit an application and other specified materials to the Asbestos Program and receive approval before the course may be taught in Michigan. Specifically, course sponsors must submit all course materials, instructors' credentials, and a completed application form with the appropriate fee. When a course sponsor has satisfied Michigan's minimum requirements, it receives "*Contingent Course Approval*" and is able to provide asbestos-related training within the state of Michigan. Each sponsor must then pass an on-site review of their course before receiving "*Full Course Approval*."

21.4.2 Accreditation of Workers

Asbestos abatement workers, supervisors, project designers, inspectors and management planners must successfully complete the appropriate initial or refresher training requirements and become accredited before working in Michigan. Individuals who work as abatement workers, supervisors, project designers, building inspectors, or management planners must submit proof that they have attended and successfully completed their respective training courses. Asbestos inspectors, management planners, and project designers must also satisfy asbestos-related work experience requirements to become accredited to work in the state.

21.4.3 Licensing of Asbestos Abatement Contractors

Other than specified exempt licensed trade groups (i.e., electricians, mechanical contractors, plumbers, residential builders, or residential maintenance/ alteration contractors), any individual or company within Michigan that is hired to remove or encapsulate friable asbestos on the premises of another, must be licensed by the Asbestos Program before engaging in any asbestos abatement activities. To become licensed, a contractor must have workers' compensation insurance and proof that all workers and supervisors have been accredited before receiving their annual licenses. The designated exempt licensed trade groups are allowed to remove or encapsulate friable asbestos materials without obtaining an asbestos abatement contractor's license provided the job they are performing is incidental to their primary license trade and it does not exceed 260 linear feet or 160 square feet of friable asbestos-containing materials.

21.4.4 Processing of Asbestos Abatement Project Notifications

Contractors performing friable asbestos removal or encapsulation work in Michigan must provide project notifications indicating the starting and ending dates and other job-related information to the Asbestos Program within a specified time frame. The Asbestos Program requires project notification 10 days prior to any non-emergency asbestos abatement project exceeding 10 linear feet or 15 square feet, or both, of friable asbestos materials. A one-percent project notification fee must also be included. Emergency asbestos abatement projects must provide notification by phone, fax, or mail prior to starting the projects. Initial phone and fax notifications must be followed up by submitting the original written project notification and fee.

While asbestos abatement workers' exposure to asbestos during removal is regulated by the Department of Energy, Labor, and Economic Growth, the Department of Natural Resources and Environment (DNRE) enforces federal regulations designed to protect the public from exposure to asbestos. For more information about the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asbestos, see Chapter 1.17.6.

21.4.5 Compliance Investigations

The Asbestos Program conducts on-site evaluations of the abatement activities of contractors and also responds to complaints or referrals involving improper work practices or procedures during asbestos abatement or disturbance activities.

21.4.6 AHERA Management Plan Review

The Asbestos Hazardous Emergency Response Act (AHERA) of 1986 is an act mandated by Congress and administered by the U.S. EPA to regulate asbestos in schools. This act mandates school building inspections and written management plans for friable and non-friable asbestos-containing building materials (ACBM) for kindergarten through 12th grade private and public nonprofit schools. The Asbestos Program is the state agency, which was selected by the governor to review the school's management, plans and determine their compliance with AHERA. This process has involved the review of more than 5,000 individual plans with a written assessment given to each Local Education Association (LEA).

21.5 Regulations Enforced

- [Michigan Public Act 154 of 1974](#) “Michigan Occupational Safety and Health Act”
- [Michigan Public Act 135 of 1986](#) “Asbestos Abatement Contractors Licensing Act”
- [Michigan Public Act 440 of 1988](#) “Asbestos Workers Accreditation Act”
- [OSHA 29 CFR 1926.1101](#) “Asbestos Standard for Construction”
- [OSHA 29 CFR 1910.1001](#) “Asbestos Standards for General Industry”

21.6 Other Asbestos Enforcement Agencies

The DNRE, Air Quality Division, [NESHAPs Asbestos Coordinator](#). Contact the NESHAP Asbestos Coordinator at (517) 373-7064.

Areas of Responsibility:

- NESHAP Regulations (40 CFR Subpart M)
- Renovation and Demolition Projects
- Transportation of Asbestos Waste
- Landfill Requirements

The U.S. EPA. Contact the Region 5 Toxic Substance Control Act (TSCA) Coordinator at (312) 353-9062.

Areas of Responsibility:

- Enforcement of AHERA Regulations

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CHAPTER 22: Bloodborne Infectious Diseases

If your employees are, or have the potential to be, exposed to blood or other potentially infectious materials (OPIMs), the expanded standard under ***MIOSHA General Industry Occupational Health Standards - Part 554, Bloodborne Infectious Diseases (R 325.70001-70018)*** applies. OPIMs include semen, vaginal secretions, and several internal body fluids. Sweat, tears, saliva (except in dental procedures), urine, feces, and vomitus are not considered as other OPIMs unless they contain visible blood or OPIM. You may want to refer to the standard for further information pertaining to other potentially infectious materials.



In a manufacturing facility, exposure to blood or other potentially infectious material may occur from designated personnel providing first aid services (see Chapter 24). Exposure means reasonably anticipated skin, eye, mucous membrane, or related contact with blood or other potentially infectious material that may result from performing job duties.

If employees are, or potentially are, exposed to blood or other potentially infectious materials, under the ***Bloodborne Infectious Diseases Standard*** you must:

- Characterize jobs as either “Category A” or “Category B.” To be classified as Category A, procedures or tasks must involve potential exposure to blood or other potentially infectious materials. Category B means there is no reasonable potential exposure to blood or other potentially infectious materials. This exposure determination must be made without considering the use of personal protective equipment. In other words, you need to consider if blood or other potentially infectious material could contact the employee or the employee’s clothing if no personal protective equipment were used.
- Maintain a list of job classifications determined to be Category A.
- Assess and document the basis used for determining the exposure potential for both categories.

Develop a written exposure control plan, which includes:

- An exposure determination.
- A schedule and method of implementation for each applicable rule of this standard.
- Content or a summary of the required training program.
- Procedures for evaluating exposure incidents (post-exposure follow-up procedures).

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- Management of inadvertent exposure such as needle sticks or mucous membrane exposures.
- Appropriate task-specific standard operating procedures.

Standard operating procedures must:


- Address employee recognition of reasonably anticipated exposure to blood and other potentially infectious material.
- Cover appropriate selection, use, maintenance, and disposal of personal protective equipment.
- Include contingency plans for foreseeable circumstances that prevent following the recommended standard operating procedures.
- Ensure that universal precautions are followed. That is, treat all clothing and linens as if they are contaminated with a bloodborne infectious disease.
- Ensure that appropriate engineering and administrative controls (i.e., safer medical devices) are instituted, followed, and annually reviewed in order to prevent or reduce exposure to blood or other potentially infectious materials. Additionally, the solicitation of non-managerial employees in the selection of safer medical devices is required.
- Provide, launder or clean, repair, replace, and dispose of all required personal protective equipment. Ensure its appropriate use by your employees. Gloves should be worn whenever hand contact with blood or other potentially infectious material is possible. Reusable utility gloves are acceptable.
- Ensure that the work place is maintained in a clean and sanitary condition. A written schedule for cleaning and decontamination needs to be developed and implemented.
- Offer hepatitis B (HBV) vaccinations to all Category A employees within ten workdays of their assignment to a Category A position and after they have received the required training. Those employees who decline to receive the vaccine must sign a declination statement as specified by [Rule 13\(4\)\(d\)](#) of this standard. HBV antibody testing must be provided if an employee requests it prior to receiving the HBV vaccination. Furthermore, the antibody testing must be conducted in accordance with the most current Center for Disease Control recommendations.
- Provide post-exposure follow-up and care to any employees who experience an exposure incident. This might be any specific eye, mouth, other mucous membranes, non-intact skin, or related contact with blood or other potentially infectious material.
- Ensure that proper signs and labels are used. Contaminated laundry sent off-site to a second facility must be shipped in biohazard labeled containers.
- Ensure that all records such as medical, training, etc., are maintained as prescribed in Rule 15 of this standard.

- Ensure that all Category A employees have been appropriately trained as specified in Rule 16 of this standard.
- Establish and maintain a sharps injury log for all percutaneous injuries from contaminated sharps (see below) .

Copies of materials that help employers develop written exposure control plans and train employees, such as the **“Sample - Bloodborne Infectious Diseases Exposure Control Plan (BSR-CET-823)”** can be obtained from the Michigan Department of Energy, Labor, and Economic Growth, Consultation Education and Training Division at (517) 322-1809.

Michigan Department of Consumer and Industry Services
Bureau of Safety and Regulation
Occupational Health Division

**“SAMPLE”
BLOODBORNE INFECTIOUS DISEASES EXPOSURE CONTROL PLAN
FOR
EMPLOYERS WITH LIMITED EMPLOYEE EXPOSURE**




Note: This document is intended as a compliance guide for MIOSHA Occupational Health rule 325.70001-70018, Bloodborne Infectious Diseases. This guide does not substitute for a full reading of the standard. This document is provided as an informational service under the authority of Public Act 154 of 1974. Its purpose is to aid in the development of written programs related to bloodborne infectious diseases. This program is designed to be adapted to each individual employer's need; forms should be shortened, expanded, or duplicated as needed.

BSR-OH-823 (6/97) AUTHORITY: P.A. 154 of 1974

Michigan Department of Consumer and Industry Services
Bureau of Safety and Regulation

**SAMPLE
Sharps Injury Log**



Record all injuries that occur from contaminated sharps

Date	Employee ID # <small>Protect confidentiality</small>	Type and Brand of Device	Incident Description	Dept. or Work Area <small>Where incident occurred</small>

Note: This log applies to any employer who is required to maintain a log of occupational injuries and illnesses under R 408.22101 Part 11 Recording and Reporting of Occupational Injuries and Illnesses. It shall be maintained for the period required by Part 11.

BSR-CET-824 (7/01)
Authority: P.A. 154 of 1974

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CHAPTER 23: Emergency Response

As an employer, you must comply with the emergency response provisions of the **Part 432, Hazardous Waste Operations and Emergency Response (HAZWOPER) Rule (R 325.52101-52137)** of the MIOSHA General Industry Occupational Health Standards if your work place contains hazardous substances in quantities that could require an emergency response if released.

An emergency response is defined by the **HAZWOPER** standard as a response effort by employees from outside the immediate release area or by other designated responders. This could be your hazardous waste hauler or local fire department responding to an occurrence which resulted in an uncontrolled release of hazardous substances. If employees are evacuated because of safety or health threats posed by an uncontrolled release of a hazardous substance, it is an emergency response. Considerations in determining an emergency response include:



- Properties of the hazardous substance such as type, quantity, toxicity, flammability, explosiveness, reactivity, vapor pressure, etc.
- Circumstances of the release such as quantity, location, etc.
- Mitigating factors in the work area such as engineering controls, training level of employees, number of employees, availability of outside resources, equipment available, pre-established standard operating procedures, etc.

Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel are not considered to be emergency responses within the scope of these rules. An example of an incidental release is use of shop towels by an employee to soak up a small solvent or coolant spill.

If you are an employer whose work place has the potential for developing an emergency response, you have two choices in complying with the standard.

1. You can rely on an emergency action plan that complies with the federal OSHA Standard - Employee Emergency Plans and Fire Prevention Plans (29 CFR 1910.38 [a]) if you evacuate employees to a safe distance and contact an outside organization to mitigate the emergency release. This level of response basically requires employees to be trained to recognize an emergency response situation and understand the appropriate action to take when one is determined, such as a designated meeting location after evacuation. An employer must take monitoring steps to ensure that the work place is safe before allowing employees to re-enter the emergency response area to perform cleanup operations or continue normal work operations.

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2. If you allow your employees to take either defensive (first-responder, operations level) or offensive (HAZMAT technician or specialist level) actions to mitigate the actual or potential emergency release of hazardous materials, you will need to develop a full emergency response plan.

Further information regarding this standard and providers of training for this standard can be obtained by contacting the MIOSHA, General Industry Safety and Health Division at (517) 322-1608. In addition, see Chapter 5 for more information regarding emergency response planning.

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CHAPTER 24: First Aid

24.1 First Aid

All employers who do not have medical services (clinic, ambulance, hospital, etc.) readily accessible must have a person or persons adequately trained to render first aid under the [*MIOSHA General Industry Occupational Health Standards - Part 472, Medical Services and First Aid*](#). The Michigan Department of Energy, Labor, and Economic Growth, MIOSHA, interprets "readily accessible" as within 3-4 minutes travel time. If first aid providers are required on-site, the employer must also provide readily available first aid supplies and ensure first aid providers are included in an appropriate Bloodborne Infectious Diseases written exposure control plan. MIOSHA does not approve first aid kits or state the required contents of a first aid kit. First aid supplies should be ordered through consultation with a health care professional. Buyer beware!



Compliance with [*MIOSHA General Industry Occupational Health Standards - Part 554, Bloodborne Infectious Diseases*](#) is necessary if you have designated personnel to provide first aid services. If you are not required to and do not wish to designate first aid providers, a policy should be developed stating such. In this case, off-site sources must be relied on for provision of first aid services, and absolutely no employees have responsibility to provide first aid to co-workers. The employer should ensure that an off-site responder (e.g., ambulance service) is able to handle medical emergencies and is familiar with the facility location as well as ensure a 3-4 minute response time. It is strongly recommended that this policy be in writing, clearly communicated to all employees, and enforced. This will reduce confusion regarding compliance with the bloodborne infectious diseases rules.

Simply providing first aid training to employees or kits for employee use does not require an employer to comply with the bloodborne infectious diseases standard. As long as a policy, as described above, is in place, employees can use the kits themselves to treat minor injuries without the employer complying with the bloodborne infectious diseases standard.

24.2 Emergency Shower/Eyewash

Where the eyes or body of any person may be exposed to injurious or corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body must be provided in the work area for immediate emergency use. Corrosive materials are normally considered to be caustic compounds if they have a pH of 9.0 or greater or acidic compounds if they have a pH of 4.0 or less in solution. A cleaner in a plating line is an example of a corrosive material found in some manufacturing



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facilities. The pH of a chemical usually can be obtained from the Material Safety Data Sheet (see Appendix E). Materials which, by their nature, are capable of causing severe tissue damage (i.e., formaldehyde, methyl ethyl ketone peroxide [MEKP], or other organic solvents), are also considered injurious.

Suitable facilities are considered to be plumbed or self-contained emergency shower and/or eyewash equipment or eye/face wash equipment meeting the design specifications of the American National Standard for Emergency Eyewash and Shower Equipment (ANSI Z 358.1-2004). Additionally, according to the American National Standards Institute, self-contained eyewash equipment or portable units must be capable of delivering to the eyes not less than 0.4 gallons (1.5 liters) per minute for 15 minutes (minimum total volume of six gallons or 22.7 liters). Self-contained emergency showers shall be capable of delivering a minimum of 20 gallons (75.7 liters) per minute for 15 minutes (minimum total volume of 300 gallons or 1135.6 liters).

Currently, MIOSHA recognizes a cold water pipe (carrying potable water at a pressure not exceeding 25 pounds per square inch) equipped with a quick-opening valve and a hand-held drench hose, or a standard hose at least 48 inches in length and not smaller than three-fourths (3/4) of an inch in diameter, as "suitable facilities." A shortcoming of this type of system is that both hands are not free to hold the eyelids open. Additionally, both eyes cannot be flushed simultaneously.

The proximity of the emergency shower and eyewash is determined by the injurious or corrosive nature of the chemical and its ability to cause tissue damage. Chemicals considered highly corrosive (i.e., pH < 2.0 or pH > 12.5) or capable of causing severe tissue damage must have, as appropriate, an emergency shower and eyewash station within 25 feet of the hazardous operation. The location of the station shall be clearly marked, well lit, and easily accessible. There should be no obstacles, closeable doorways, or turns.

Corrosive materials of an other-than-serious nature (i.e., pH > 2 and < 4 or pH > 9 and < 12.5) must have an appropriate station located within 100 feet of the hazard.

For more information regarding MIOSHA's "Application of Standards Requiring Emergency Eyewash/Shower Equipment" please review the following document on the MIOSHA Web site www.dleg.state.mi.us/wsh/docs/inst/miosha_std_07_1r1.doc.

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CHAPTER 25: Sanitation

The *MIOSHA General Industry Occupational Health Standards - Part 474, Sanitation (R 4201)* applies to all permanent places of employment and discusses the following items:

- Housekeeping, waste disposal, and vermin control requirements.
- Requirements for provision of potable (approved for drinking) and nonpotable water supplies. This includes design, construction, and installation of facilities and prohibited conditions.
- Number of toilets or urinals and lavatories required in the work place.
- Provision, design, construction, and installation of toilet, lavatory, shower, washing and clothes drying facilities, and change rooms.
- Consumption of food and beverages in the work place as well as food handling protocol.



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CHAPTER 26: Noise

In manufacturing facilities, noise is one of the pervasive occupational health problems. Exposure to high levels of noise can cause permanent hearing loss. Noise is a byproduct of many processes. The ***MIOSHA General Industry Occupational Health Standards – Part 380, Occupational Noise Exposure (R 325.60101-60138)*** requires you to develop a hearing conservation program when noise levels equal or exceed the action level for noise. The action level is 85 dBA as averaged over an eight-hour workshift. A hearing conservation program includes:



- Monitoring of the work place to document sound levels in high noise areas and employee exposure to this noise.
- Audiometric testing of employees provided at no cost to the employee. The test must be conducted by a licensed or certified audiologist, otolaryngologist, physician, or appropriately trained or certified technician supervised by one of the previously mentioned persons. Baseline audiograms must be conducted within six months after the employee's first exposure at or above the action level. Baselines can be obtained within one year after initial exposure if mobile test vans are used. At least annually after obtaining the baseline audiogram, an employer must obtain a new audiogram for each employee exposed at or above the action level.
- Provision of a variety of hearing protection for all employees exposed to noise at or above the action level. Mandatory use of hearing protection is required for all employees exposed to noise at or above the permissible exposure limit (permissible exposure limit – 90 dBA, eight-hour time-weighted average). Also, mandatory use of hearing protection is required for all employees who have not received a baseline audiogram within six months of initial exposure at or above the action level or who have experienced a standard threshold shift.
- Training of employees on the:
 - Effects of noise on hearing.
 - Purpose of hearing protectors.
 - Advantages, disadvantages, and ability to reduce noise levels through use of various types of hearing protectors.
 - Selection, fitting, use, and care of hearing protectors.
 - Purpose of audiometric testing and an explanation of test procedures.

A standard threshold shift means a change in the hearing threshold, relative to the baseline audiogram, of an average of 10 dB or more at 2,000; 3,000; and 4,000 Hz in either ear. If a

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standard threshold shift is caused by prolonged exposure to noise, it may be recordable on the MIOSHA 300 log in column (5). Any standard threshold shift caused by exposure to an instantaneous event must be recorded on the MIOSHA 300 log as an injury.

Additionally, if noise exposures exceed the permissible exposure limit, the employer must utilize all technologically available and feasible (i.e., economically, structurally, etc.) engineering and administrative controls to reduce and maintain noise exposures below the permissible limit. When purchasing new equipment, noise control measures should be considered and addressed prior to installation. Noise control measures include isolating vibration sources, insulating surrounding walls with sound-absorbing material, and enclosing equipment. If these controls do not reduce noise exposures below the permissible exposure limit, hearing protection must also be provided to and be used by exposed employees.